

## **AMENDMENTS TO THE CLAIMS**

Please cancel claims 1 - 19 without prejudice or disclaimer of the subject matter contained therein.

Please add the following new claims:

20. (new) A powered hammer comprising:

a hollow spindle including a forward tool holding end in which a tool can be releasably mounted for limited reciprocation;

a piston mounted within an opposite rearward end of the spindle and operatively coupled to a motor for being reciprocably driven therein;

a beatpiece located within the spindle between the piston and the tool for transmitting repeated impacts to the tool, the beatpiece having reduced diameter portions along its forward and rearward portions and an increased diameter mid-portion; and

a two-part sleeve arrangement located within the spindle and having an increased internal diameter mid-portion for receiving the increased diameter mid-portion of the beatpiece and reduced internal diameter forward and rearward portions for guiding the forward and rearward ends respectively of the beatpiece in all working positions of the beatpiece; wherein the two-part sleeve arrangement includes a forward sleeve and a rearward sleeve, at least said forward sleeve being guided to enable axial play by and within the spindle.

21. (new) A hammer according to Claim 20 wherein the rearward sleeve is also guided to enable axial play by and within the spindle.

22. (new) A hammer according to Claim 21 wherein the forward axial movement of the forward sleeve is limited by a reduced internal diameter portion of the spindle.

23. (new) A hammer according to Claim 22 wherein the forward axial movement of the rearward sleeve is limited by the forward sleeve.

24. (new) A hammer according to Claim 20 further comprising an annular seal located in front of the forward sleeve between the beatpiece and the spindle.

25. (new) A hammer according to Claim 20 further comprising an annular seal located between the beatpiece and a forward end of the forward sleeve.

26. (new) A hammer according to Claim 25 wherein the annular seal is recessed within a forward end of the forward sleeve.

27. (new) A hammer according to Claim 20 further comprising an annular seal located between the forward sleeve and the spindle.

28. (new) A hammer according to Claim 20 wherein the sleeve arrangement encloses the mid-portion of the beatpiece to form a self-contained sub-assembly, which is assembled into said spindle.

29. (new) A hammer according to Claim 20 wherein the beatpiece has a mass and the front sleeve has a mass less than or equal to the mass of the beatpiece.

30. (new) A hammer according to Claim 20 wherein the beatpiece has a mass and the front sleeve has a mass less than half of the mass of the beatpiece.

31. (new) A hammer according to Claim 20 wherein the beatpiece includes a second increased diameter portion, rearward of the first increased diameter mid-portion, which is engageable with a resilient beatpiece catching ring, which catching ring is mounted within the rearward sleeve, for catching the beatpiece in a forward position in an idle mode of the hammer.

32. A hammer according to Claim 20 wherein an annular gap is defined between a peripheral surface of the increased diameter mid-portion of the beatpiece and increased an internal diameter portion of the sleeve arrangement.

33. (new) A hammer according to Claim 22 further comprising a beatpiece impact ring mounted in the rearward sleeve behind a rearward facing surface of the first increased diameter portion of the beatpiece for absorbing reverse impacts from the beatpiece and transmitting the impacts to the rearward sleeve.

34. (new) A hammer according to Claim 33 further comprising:  
a damping ring mounted in the rearward sleeve behind the impact ring for damping the impacts transmitted from the impact ring to the rearward sleeve.

35. (new) A hammer according to Claim 21 wherein reverse impacts from the beatpiece are transmitted from the increased diameter mid-portion of the beatpiece to the spindle via the rearward sleeve.

36. (new) A hammer according to Claim 35 wherein a resilient O-ring is located between a rearward facing external shoulder of the rearward sleeve and a fixing for axially limiting the rearward movement of the rearward sleeve within the spindle and during operation of the hammer, the increased diameter mid-portion of the beatpiece repeatedly abutting a forward facing internal shoulder of the rearward sleeve.

37 (new) A hammer according to Claim 20 further comprising a resilient O-ring located between a first forward facing shoulder of the forward sleeve and a first rearward facing shoulder of the spindle, the resilient O-ring urging the forward sleeve into a rearward position within the spindle to define a gap between a forward facing part of the forward sleeve and a rearward facing part of the spindle, which gap is closed by forward axial movement of the sleeve on entry into an idle mode of the hammer.

38 (new) A hammer according to Claim 20 wherein the hollow spindle is formed as a single component.

39. (new) A hammer according to Claim 20 wherein the spindle comprises at least two components.

40. (new) A hammer according to Claim 39 wherein the spindle comprises a first component which houses the piston and beatpiece and a second component that forms a tool holder which is removable from the first component.

41. (new) A powered hammer comprising:  
a tool holder for releasably receiving a tool for limited reciprocation;  
a hollow spindle having a forward end and a rearward end;

a piston mounted within the rearward end of the spindle and operatively coupled to a motor for being reciprocally driven therein;

a beatpiece located within the spindle between the piston and the tool and having forward and rearward end portions for said beatpiece under operative load conditions when the tool is pressed against a workpiece, reciprocating between a forward operative position and a rearward position, and under an inoperative idle condition wherein the tool is not pressed against a workpiece, being driven by said piston into an idle position forward of said forward operative position; and transmitting repeated impacts to the tool, the improvement comprising:

a damping mechanism for absorbing energy from said beatpiece when driven into said idle condition, including a two-part sleeve arrangement located within the spindle and radially sized for guiding and supporting both the forward and rearward end portions of the beatpiece in all working positions of the beatpiece, the two-part sleeve arrangement comprising a forward sleeve and a rearward sleeve which are guided to enable axial play by and within the spindle, the forward sleeve being operative to move forward when said beatpiece is driven into said idle position and rebound off a stop surface associated with the spindle rearwardly against the rearward sleeve member, thereby preventing the absorbed energy from being transferred back to said beatpiece.

42. (new) A hammer according to Claim 41 wherein the tool holder is an integral part of the forward end of the spindle.

43. (new) A hammer according to Claim 41 wherein the beatpiece includes an increased diameter mid-portion and reduced diameter forward and rearward portions and the forward and rearward sleeves have reduced diameter forward and rearward

portions respectively for guiding the forward and rearward portions respectively of the beatpiece in all working positions of the beatpiece.

44. (new) A hammer according to Claim 41 wherein the stop surface comprises a reduced internal diameter portion of the spindle.

45. (new) A hammer according to Claim 43 wherein reverse impacts from the beatpiece are transmitted from the increased diameter mid-portion of the beatpiece to the spindle via the rearward sleeve.

46. (new) A hammer according to Claim 43 wherein the sleeve arrangement encloses the mid-portion of the beatpiece to form a self-contained sub-assembly that is assembled into the spindle.

47. (new) A hammer according to Claim 41 further including a ram positioned within said spindle between the piston and the rearward end portion of the beatpiece for transmitting repeated impacts to the beatpiece.

48. (new) A hammer according to Claim 47 further including a catch fixedly sleeve located within said spindle rearwardly of said rearward sleeve and having a reduced internal diameter portion for catching one of the beatpiece and the ram in the idle condition.

49. (new) A hammer according to Claim 48 further including a resilient member positioned between an annular face of said rearward sleeve and an annular face of said catch sleeve.

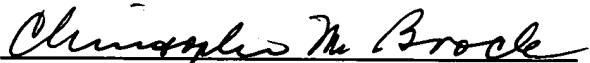
50. (new) A hammer according to Claim 49 wherein reverse impacts from the beatpiece are transmitted to the spindle via the rearward sleeve and the catch sleeve.

Respectfully submitted,

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